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PATENT SPECIFICATION

447,091



Application Date : May 30, 1935. No. 15799/35.

Complete Specification Accepted : May 12, 1936.

COMPLETE SPECIFICATION

Improvements in and relating to Locks or Safety Devices therefor.

I, WILLIAM THOMAS HOCHSTADT, a British subject, of Sailors' Home and Seamen's Institute, Hong Kong, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to locks or safety devices therefor of the kind in which the key-hole is filled by members which are inserted in it and make the use of a false key or skeleton key impossible. The object of the invention is to provide an improved safety device of the aforesaid kind which is particularly reliable and easy to manipulate.

In order to obtain this result, in accordance with the invention, the lock or safety device therefore comprises two bars which are adapted to be inserted one above the other in the keyhole and, when inserted, project at each side of the keyhole, of which one is provided with a hook-like extension which abuts outside the keyhole against one side of the lock or door, while the ends of the bars which project on the other side of the keyhole are adapted to be connected together by a separate lock or securing device, and one of the bars co-operates also with the bolt or the latch or both and in such a manner as to lock it in the closed position.

The device is constructed in such a manner that it can be introduced into the keyhole either from inside the door or from outside. The bars are preferably made of steel, which may be hardened for greater safety, and the device is so simple in construction that, in spite of its absolute reliability in operation, it is inexpensive and can be manufactured on mass production lines. At the same time it may also have the advantage that, owing to the safety which it guarantees, it may result in a reduction in the premiums on burglary insurance policies being allowed by Insurance Companies.

Owing to the fact that the members which are inserted into the keyhole not only block the keyhole but also engage the bolt or the latch or both, not only can the lock not be picked by inserting a

skeleton key or the like through the keyhole, but it is also not possible to move the bolt or the latch backwards by other means.

According to a particular suitable form of construction, one of the bars is provided at the end opposite to the hook-like projection with two steel rings which can swing about an axis transverse to the bar, while the other bar is provided, at the corresponding place, with an annular extension which fills the space between the two steel rings on the former bar.

Then, in order to introduce the device into the keyhole the bar provided with the hook is first introduced and when the hook-like end has passed through the keyhole, the second bar is introduced, whereby the position of the first bar is altered in such a way that the hook engages the edge of the keyhole. It is then only necessary to turn the rings on the bar with the hook into a position in which they coincide with the ring of the other bar, in order to be able to introduce the hasp of a padlock through the common annular opening and thus reliably to secure the device in position.

Various constructional embodiments of the safety device in accordance with the invention are illustrated by way of example in the accompanying drawings, in which:—

Figure 1 is a perspective view of a door lock with the safety device fitted to it;

Figure 2 is a part section through a door showing the device in position;

Figure 3 is a detail view of one of the members of the device;

Figure 4 is a detail view of the member which co-operates with the member shown in Figure 3;

Figure 5 is a view showing the two members placed together in the position which they occupy when inserted in the keyhole;

Figure 6 is a similar view showing the positions of the two members interchanged, to illustrate another position which they may occupy when inserted in the keyhole;

Figure 7 is a section through a lock similar to Figure 2 showing a form of con-

struction in which one of the members of the safety device is provided with means for engaging the bolt;

Figure 3 is a perspective view of part 5 of the device shown in Figure 7;

Figure 9 is a perspective view of a form of construction in which a combination lock is employed instead of a padlock for securing the safety device, and

Figures 10 and 11 show further modifications of the two members of the device.

Referring to Figure 1 of the drawings, the door 1 is provided with a mortise lock from the door plate 2 of which the latch 3, which is operated by the handle 4, and the bolt 5 project in the usual manner in order to form the closure. The actual safety device consists of the two bars 6 and 7 (Figures 3 and 4) of which the former is provided with a hook-like projection 6¹¹ and with two lateral rings 6¹ which can be turned in the manner indicated in dotted lines in Figure 3, and between which there is a free space equal to the thickness of the bar 6. The second bar 7 is also of the same thickness as the bar 6 and like the former bar is made of steel plate and fits exactly between the two rings 6¹ of the bar 6.

After the bolt 5 has been shot into its locking position the bar 6 is first introduced from one side of the door to the other through the keyhole, the height of which is sufficient to enable the bar 6 with its hook-like end 6¹¹ to be passed through it. Then, by inserting the bar 7 underneath the bar 6 the latter is raised and both bars 6 and 7 fill the keyhole to its full height while the hook-like extension 6¹¹ abuts behind the keyhole against the side of the door or against the usual escutcheon plate or the like.

The bar 7 has an annular extension 7¹ which corresponds in shape and size with the two rings 6¹ on the bar 6. If now the hasp of a padlock is introduced through the openings in the rings 6¹ and the ring 7¹ then the two bars 6 and 7 in the keyhole can be secured in position and it is not possible to open the lock either from the inside or from the outside with the aid of a false key or a skeleton key or the like.

The two rings 6¹ on the bar 6 can either both turn together or it is sufficient if only one of the rings can be turned, since it is only of importance to bring the two rings 6¹ and the ring 7¹ into a position such that the three rings can be secured in their operative position by means of a lock. The bolt 5 is provided with a recess 5¹, see Figure 2, in which the bar 6 engages, so that the bolt is additionally secured in its closed position by the bars. The bars, therefore, not only make the

keyhole inaccessible but they also lock the bolt in its closed position.

By means of a suitably modified form of construction the latch 3 can be secured in its closed position by means of the bars 6 and 7. For this purpose it is, of course, necessary for the body of the latch to be fitted at the proper height with respect to the bars. In some cases the arrangement may be such that the bars effect a locking both of the bolt 5 as well as of the latch 3.

Figure 6 shows that the same result can be obtained when the bar 6 is arranged at the bottom and the bar 7 above it. In this case the only difference is that the hook-like end 6¹¹ of the bar 6 is directed downwardly.

In the form of construction according to Figures 7 and 8, the bar 6, in addition to being provided with a hook-like end 6¹¹, is also provided with an extension 6¹¹¹ which engages in a corresponding recess 5¹ of the bolt 5 when in its closed position, so that the bolt 5 cannot be opened without removing the bars 6 and 7. Or, the bolt may be provided with a projection which engages the bar.

The form of construction illustrated in Figure 9 shows a combination lock of the usual construction which is employed in place of a padlock for locking the bars in position.

In the form of construction shown in Figures 10 and 11, there are provided two bars 16 and 17 of which the bar 16 has a hook-like extension 16¹¹ while its other end has a rigid head 16¹ which lies adjacent to the head 17¹ of the lower bar 17, the two heads being of the same size and shape. The two heads 16¹ and 17¹ are provided with apertures 17¹¹ through which any suitable securing device 18 can be inserted. Figure 11 shows that the head 17¹ of the bar 17 is bent so that the two heads 16¹ and 17¹ lie one beside the other although the two bars which are both of the same thickness are placed one above the other in the keyhole.

Various modifications can be made without departing from the invention, since the constructional embodiments are illustrated merely by way of example. Thus, for example, the two rods 6 and 7 or 16 and 17 could be locked in their closing position by a trick or other means known only to an authorised person, so that a padlock or other lock for securing them in position can then be dispensed with.

Further, in some cases another separate locking of the two rods in their closing position may be undertaken and this locking may be controlled by electrical, magnetic or pneumatic means and may also be operated by some remote control system.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A lock or safety device therefor comprising two bars which are adapted to be inserted one above the other in the key-hole and, when inserted, project at each side of the keyhole, of which one has a hook-like end which abuts outside the key-hole, against the side of the door or lock, while the ends of the bars which project at the other side of the keyhole are provided with means whereby they can be connected together by a separate lock or securing device, one of the said bars co-operating also with the lock bolt or the latch bolt or both in such a manner that the bolt or latch is held thereby in the closed position.

2. A lock or safety device in accordance with claim 1, wherein the bars are provided, at the ends opposite to the end of the bar provided with the hook-like extension, with annular extensions, the openings in which coincide, so that the bars can be locked in their operative position by inserting the hasp of a padlock through the apertures.

3. A lock or safety device in accordance with claim 1 or claim 2, in which one of the bars is provided with two lateral annular extensions of which one or both are pivoted to the bar, in order to enable the bars to be inserted easily into the key-hole and to be connected together.

4. A lock or safety device in accordance with claim 2 or 3, in which the two bars are made of steel and are of the same thickness and the annular extension on one of the bars is integral with the bar

and fits exactly in the space between the two annular extensions on the other bar.

5. A lock or safety device in accordance with any of the claims 1 to 4, wherein the two bars are locked in their operative position by means of a combination lock, for example a letter or number lock.

6. A lock or safety device in accordance with any of the claims 1 to 5, in which one of the bars is provided with a projection which engages in a recess in the lock bolt and locks the bolt in its closed position.

7. A lock or safety device in accordance with claims 1 to 5, in which the lock bolt or the latch bolt is provided with an extension which engages one of the bars, so that when the bars are in their operative position they lock the bolt or the latch or both in their closed position.

8. A lock or safety device in accordance with claims 1 to 7, in which the two bars are provided at the end opposite the end provided with a hook-like extension with heads having openings which coincide in order to be able to introduce a padlock or other means for locking the bars in position.

9. A lock or safety device in accordance with claim 8, in which the head of one of the bars is bent laterally so that it comes to lie adjacent to the head of the other bar.

10. A lock or safety device therefor substantially as described with reference to the accompanying drawings.

Dated the 30th day of May, 1935.

For the Applicant:—

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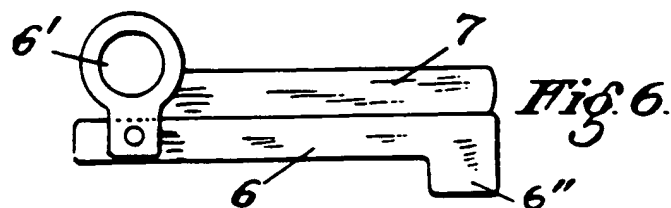
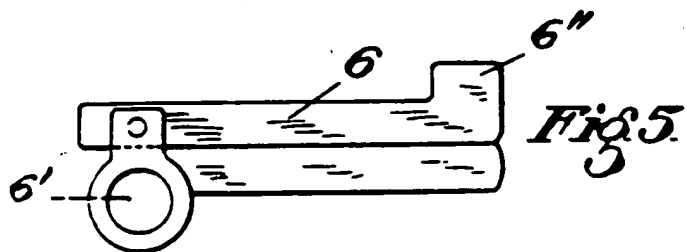
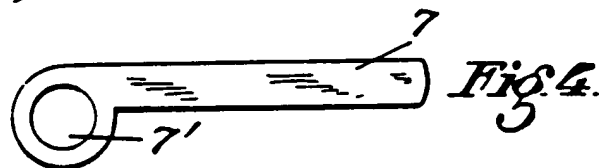
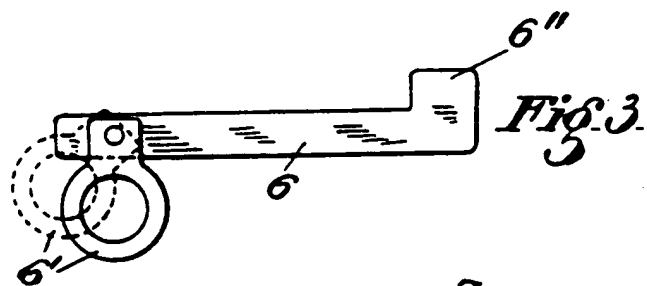
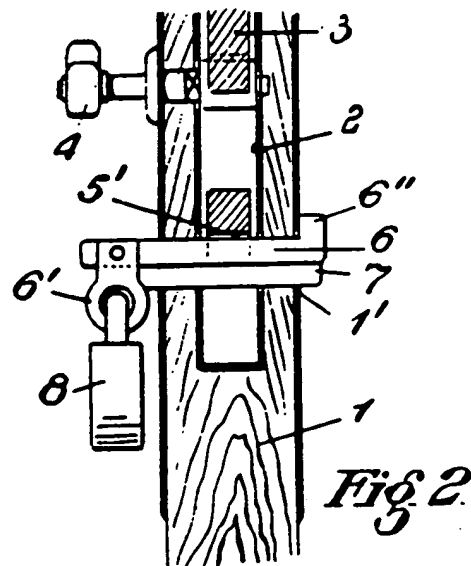
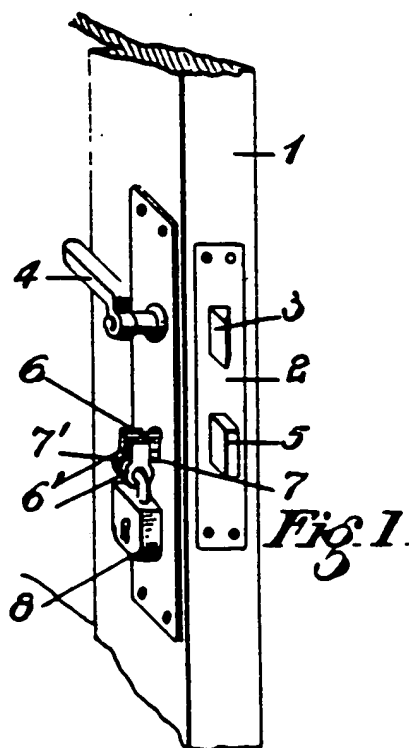
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447,091 COMPLETE SPECIFICATION

SHEET 1

[This Drawing is a reproduction of the Original on a reduced scale.]



MOL. Figs.
1, 2, 4, 6 and 9
7 B. I. 9

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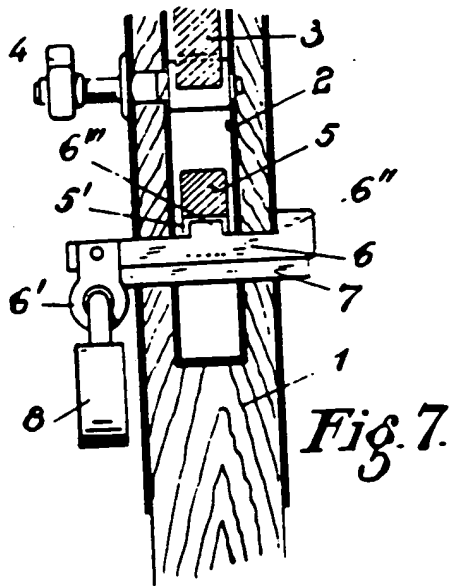


Fig. 7.

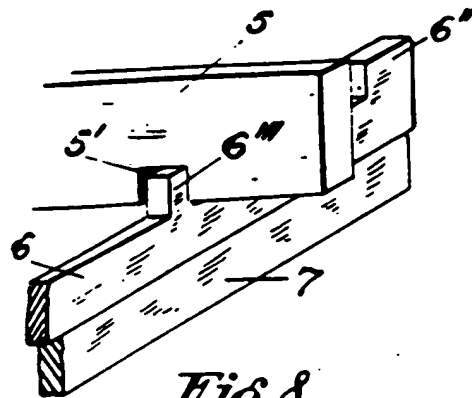


Fig. 8.

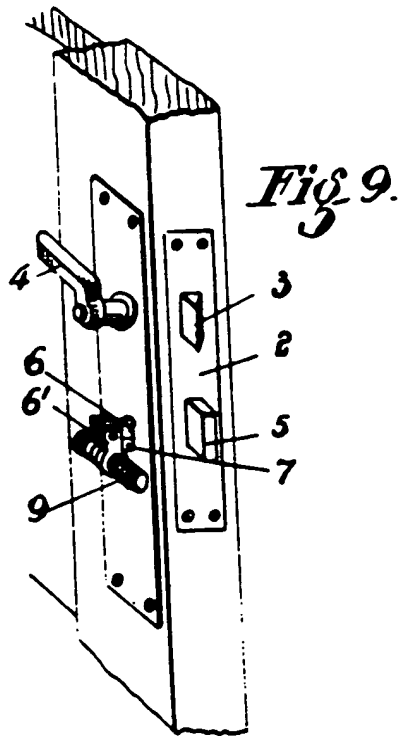


Fig. 9.

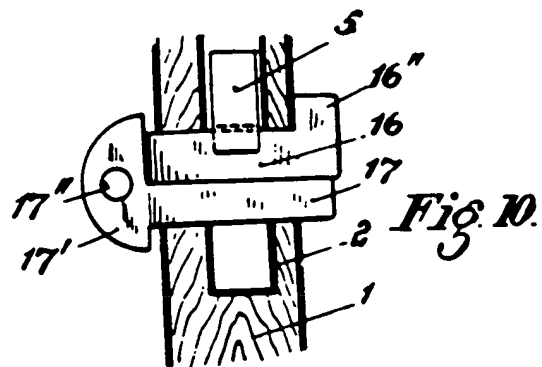


Fig. 10.

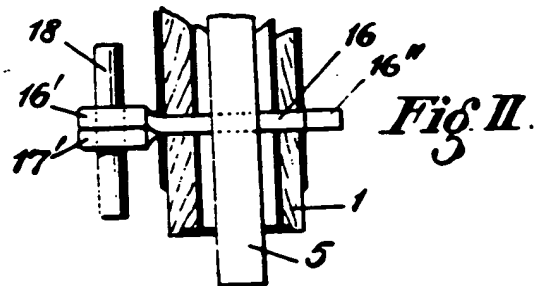


Fig. 11.